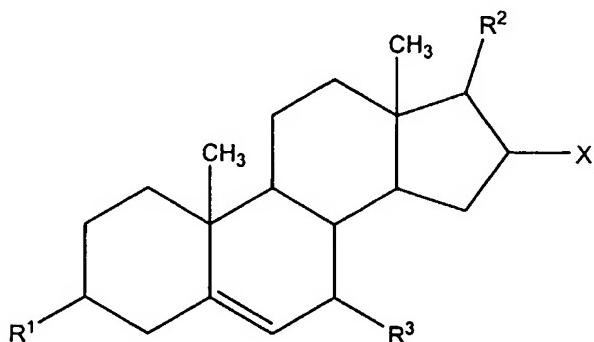


WHAT IS CLAIMED IS:

1. A method for reducing pulmonary arterial pressure (PAP), comprising introducing an effective amount of DHEA, DHEAS, DHEA analog, or DHEA derivative into the pulmonary airways of a mammal.
2. The method of Claim 1, wherein said DHEA, DHEAS, DHEA analog, or DHEA derivative has the general formula



wherein

X is H or halogen; R¹, R² and R³ are independently =O, -OH, -SH, H, halogen, pharmaceutically acceptable ester, pharmaceutically acceptable thioester, pharmaceutically acceptable ether, pharmaceutically acceptable thioether, pharmaceutically acceptable inorganic esters, spirooxirane, spirothirane -OSO₂R⁵ or -OPOR⁵R⁶, or a pharmaceutically acceptable monosaccharide, disaccharide or oligosaccharide; R⁵ and R⁶ are independently -OH, pharmaceutically acceptable esters or pharmaceutically acceptable ethers; and pharmaceutically acceptable salts, and alternatively wherein R² and R³ may be selected from the group consisting of a methyl group, a partially or completely dehydrogenated aliphatic hydrocarbon chain of 2-14 carbons, and a saturated aliphatic hydrocarbon chain of 2-14 carbons.

3. The method of Claim 2, wherein R¹, R², R³, and X are selected from the group consisting of:

R² is =O, R³ and X are each H and R¹ is =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R² is =O, R³ is H, X is halogen and R¹ is =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is =O, R^3 and X are each H and R^1 is -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is =O, R^3 is H, X is halogen and R^1 is -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is =O, X is H and R^1 and R^3 are independently =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is =O, X is halogen and R^1 and R^3 are independently =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is =O, X is H and R^1 and R^3 are independently -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is =O, X is halogen and R^1 and R^3 are independently -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, R^3 and X are each H and R^1 is =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, R^3 is H, X is halogen and R^1 is =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, R^3 and X are each H and R^1 is -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, R^3 is H, X is halogen and R^1 is -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, X is H and R^1 and R^3 are independently =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, X is halogen and R^1 and R^3 are independently =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, X is H and R^1 and R^3 are independently -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -OH, X is halogen and R^1 and R^3 are independently -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, R^3 and X are each H and R^1 is =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, R^3 is H, X is halogen and R^1 is =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, R^3 and X are each H and R^1 is -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, R^3 is H, X is halogen and R^1 is -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, X is H and R^1 and R^3 are independently =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, X is halogen and R^1 and R^3 are independently =O, -OH, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, X is H and R^1 and R^3 are independently -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

R^2 is -SH, X is halogen and R^1 and R^3 are independently -SH, pharmaceutically acceptable thioesters thereof, pharmaceutically acceptable thioethers thereof or pharmaceutically acceptable salts;

X is H and R¹, R² and R³ are independently =O, -OH, a sugar residue, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts, wherein at least one of R¹, R² and R³ is a sugar residue;

X is halogen and R¹, R² and R³ are independently =O, -OH, a sugar residue, pharmaceutically acceptable esters thereof, pharmaceutically acceptable ethers thereof or pharmaceutically acceptable salts, wherein at least one of R¹, R² and R³ is a sugar residue;

X is H and R¹, R² and R³ are independently =O, -OH, pharmaceutically acceptable inorganic esters thereof or pharmaceutically acceptable salts, wherein at least one of R¹, R² and R³ is an inorganic ester;

X is halogen and R¹, R² and R³ are independently =O, -OH, pharmaceutically acceptable inorganic esters thereof or pharmaceutically acceptable salts, wherein at least one of R¹, R² and R³ is an inorganic ester.

4. The method of any one of the above claims, wherein said mammal is a human.

5. The method of any one of the above claims, wherein said introducing is by inhalation.

6. The method of any one of the above claims, wherein said introducing is by pulmonary administration.

7. The method of any one of the above claims, wherein said introducing is by inspiration.

8. The method of any one of the above claims, wherein said introducing is by an aerosol.

9. The method of any one of the above claims, wherein said introducing is by nebulization.

10. The method of any one of the above claims, wherein said effective amount of DHEA, DHEAS, DHEA analog, or DHEA derivative is from about 0.01 mg per kg body weight to about 100 mg per kg body weight per day.

11. The method of any one of the above claims, wherein said introducing an effective amount of DHEA, DHEAS, DHEA analog, or DHEA derivative is by chronic administration.

12. The method of any one of the above claims, wherein said introducing an effective amount of DHEA is by intermittent administration.
13. The method of any one of the above claims, wherein the DHEA, DHEAS, DHEA analog, or DHEA derivative is in the form of a dry particulate.
14. The method of any one of the above claims, wherein the DHEA, DHEAS, DHEA analog, or DHEA derivative is in the form of an aerosol.
15. The method of Claim 14, wherein said effective amount of DHEA, DHEAS, DHEA analog, or DHEA derivative is from about 0.01 mg per kg body weight to about 100 mg per kg body weight per day.
16. The method of any one of the above claims, further comprising administration of an antibacterial agent.
17. The method of any one of the above claims, further comprising administration of an antifungal agent.
18. The method of any one of the above claims, further comprising administration of an antiviral agent.
19. The method of any one of the above claims, further comprising administration of a vasodilator.
20. The method of any one of the above claims, further comprising administration of a bronchodilator.
21. The method of any one of the above claims, further comprising administration of an anti-inflammatory agent.
22. A metered dose inhaler comprising at least one compound selected from the group consisting of: DHEA, DHEAS, a DHEA analog, or a DHEA derivative.
23. The metered dose inhaler of Claim 22, further comprising an antibacterial agent.
24. The metered dose inhaler of any one of Claims 22-23, further comprising an antifungal agent.
25. The metered dose inhaler of any one of Claims 22-24, further comprising an antiviral agent.
26. The metered dose inhaler of any one of Claims 22-25, further comprising a bronchodilator.
27. The metered dose inhaler of any one of Claims 22-26, further comprising a vasodilator.

28. The metered dose inhaler of any one of Claims 22-27, further comprising an anti-inflammatory agent.
29. The metered dose inhaler of any one of Claims 22-28, further comprising administration of a bronchodilator.
30. A dry powder inhaler comprising a formulation comprising at least one compound selected from the group consisting of: DHEA, DHEAS, a DHEA analog, or a DHEA derivative.
31. The inhaler of Claim 30, wherein the DHEA formulation has a particle size of about 0.5µm to about 5µm.
32. A method of treatment of pulmonary artery hypertension in an individual, comprising the administration of an effective amount of a composition comprising at least one compound selected from the group consisting of: DHEA, DHEAS, a DHEA analog, or a DHEA derivative.
33. The method of Claim 32, wherein said individual is a mammal.
34. The method of any one of Claims 32-33, wherein said administration is by injection.
35. The method of any one of Claims 32-34, wherein said administration is oral.
36. The method of any one of Claims 32-35, wherein said administration is pulmonary administration.
37. The method of Claim 36, wherein said pulmonary administration is by use of an aerosol.
38. The method of any one of Claims 36-37, wherein said pulmonary artery hypertension is caused by disorders of the respiratory system.
39. The method of any one of Claims 36-38, wherein said pulmonary artery hypertension is caused by chronic hypoxia.
40. The method of Claim 39, wherein said pulmonary artery hypertension is chronic hypoxic pulmonary artery hypertension.
41. The method of any one of Claims 33-40, wherein said mammal is a human.
42. A method of reversing the severity of pulmonary artery hypertension in an individual, comprising administering an effective amount of at least one compound selected from the group consisting of: DHEA, DHEAS, a DHEA analog, or a DHEA derivative.
43. A method of decreasing RV wall thickness in a mammal, comprising administering an effective amount of a composition comprising at least one compound

selected from the group consisting of: DHEA, DHEAS, a DHEA analog, or a DHEA derivative.